SUMMARY OF THE INVENTION

It is a principal object of the present invention to provide a low cost, personalized information service.

It is another object of the present invention to distribute vast quantities of information to a user site, both as an original, one-time archival databank and as periodic updates on a continuing basis.

It is another object of the present invention to provide and maintain a local databank at a user site which may be accessed by the user, as desired, in a seamless manner.

It is a further object of the present invention to provide a periodically updated databank, on site to a user, so as to minimize telephone usage and central computer processing time.

It is a further object of the present invention to provide a system for financial accounting of information distributed to, and selected and received by a user.

It is a further object of the present invention to provide a system for accounting financially for information distributed to, and selected and received by a user which permits a user to conveniently "charge through" the use of the information to the user's separate accounts or clients.

It is a further object of the present invention to provide a system for distributing information to a user which is extremely secure from attack and tampering by a third party and/or by the user him/herself.

It is a further object of the present invention to provide a system for accounting financially for information distributed to, and selected and received by a user which accounting system is extremely secure from attack and tampering by a third party and/or by the user him/herself.

It is a further object of the present invention to provide a system for controlling and monitoring access to information by a plurality of individual information users.

It is a further object of the present invention to provide an information distribution system which has certain information storage capability of its own but which is capable of obtaining information from outside sources such as a local area network (LAN) file server or a dial-up database.

These objects, as well as further objects which will become apparent from the discussion that follows, are achieved, according to the present invention, by providing at the user site:

(a) a first, protected storage device, such as a high density storage medium and reader, for storing information for subsequent selection and retrieval;

(b) a second storage device, such as a random access memory (RAM) or hard disk drive, for storing information to be received by the user;

(c) a device, such as a programmed microcomputer, for selecting and retrieving information from the first storage device and for transferring such information to the second storage device; and

(d) a device, such as the aforementioned microcomputer, for accumulating use fees for the information transferred to the second storage device so that the user can be charged for the particular information that is received and used.

Conceptually, the second storage device thus becomes the "conduit" for monitoring the use of information: both archival and update information. All information placed in, and passing through this conduit is charged to the user. After placing the selected information in this second storage device the user may direct that it be supplied to a hard copy reproduction device such as a printer, to another computer via an SCSI bus or local area network, to a remote location via a telephone line, cable or other transmission link, or even to another storage device, such as a hard disk.

The charge for the information selected and retrieved from the first storage device and placed in the second storage device may be based on the number of alphanumeric characters, number of words, or some other unit of measurement. Preferably, and in accordance with a particular feature of the present invention, the use fee for the information is based on a so-called "information package", hereinafter sometimes referred to as an "IP". Thus, the information stored in the first storage device may be arranged, and is retrievable as a plurality of information packages (IP's), and the user is charged in accordance with either a standard use fee for each IP, or in accordance with a specific use fee associated with each different IP that is transferred to the second storage device. To facilitate the charge by use fee, each IP is preferably provided with a "header" portion of the package which may include such information as its identification (title, author, publication date, abstract and the like), its length, and the specific use fee associated with that IP. The header identification information is useful for search purposes as well as to permit a user to scan the subject matter of an IP before selecting and retrieving the entire IP.

The user fee charged for each information package that is transferred to the second storage device may thus be a specific use fee associated with the respective IP; a standard use fee for each IP (irrespective of the identity, type or length of the IP); a class-dependent IP which is the same for all IP's of a common class, but is different for IP's of different classes; and/or a length-dependent user fee which is determined by the length of the information transferred to the second storage device. User subscription fees may be charged to cover all or a portion of the user fees charged for information of a certain type or class.

In accordance with a further feature of the present invention, the first storage device contains both archival information, which is transmitted to the user either on a one-time basis or at repeated intervals that are relatively long in time (e.g. one year), and current, update information which is repeatedly transmitted to the user at relatively short intervals of time (e.g. one day, week, month or the like). The current information, which comprises updates to the archival information, may be either continuously or intermittently transmitted from a central location to a plurality of user stations at remote locations as a serial data stream or provided via inexpensive low density storage media.

The user stations are operative to select data from the data stream or low density media and store the selected data either in the first storage device (if it is to update the archival information) or the second storage device (if it is to be immediately used). Each user station also accumulates charge information corresponding to the selected information that has been deciphered and stored in the second storage device (protected information stored in the second storage device will not be billed for until it is decrypted). In this way, the user can be charged for the particular information that was selected, received and used.